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(54) Title: THREE-DIMENSIONAL MODELING FROM ARBITRARY THREE-DIMENSIONAL CURVES

(57) Abstract: The present invention relates to a method and a system for creating three-dimensional models of objects from sets of arbitrary three-dimensional entities obtained from target surfaces. It also provides an efficient method for individually refining the alignment of curves to improve the accuracy of the surface model with a linear complexity with respect to the number of curves. The principle behind the invention is that a set of three-dimensional entities, at their approximate positions, creates a field from which the surface can be extracted. The field is constructed in a manner such that the three-dimensional entities are attracted toward the extracted surface. This attraction is used to accurately register each three-dimensional entity with respect to extracted surface. Through iterations, both the field and the entity positions are refined.